

**Notice of Allowability**

Application No.

10/080,525

Examiner

Peter-Anthony Pappas

Applicant(s)

SHEKTER, JONATHAN

Art Unit

2628

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/23/07.
2. ☒ The allowed claim(s) is/are 6-45.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John F. Horvath on 7/23/07.

The application has been amended as follows:

- Claim 22, line 8, replace "rate of change of depth" with --rate of change of depth with time--.
- Claim 26, line 10, replace "transfer mode, and at least one of the object" with --transfer mode, the object--.
- Claim 29, line 7, replace "transfer mode, and at least one of each scan-converted" with --transfer mode, each scan-converted--.
- Claim 37, line 8, replace "rate of change of depth" with --rate of change of depth with time--.
- Claim 39, line 8, replace "rate of change of depth" with --rate of change of depth with time--.
- Claim 42, line 10, replace "rate of change of depth" with --rate of change of depth with time--.

2. Claims 6-45 are allowed.

3. In regard to claims 6-33, 35, 36, 38 and 40-45 the prior art of record fails to teach or suggest the limitations of the respective claims when considered as a

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whole, specifically wherein each pixel fragment is configured to store an object primitive's local color, depth, coverage, transfer mode, rate of change of depth with time and surface geometry information. It is noted that term "coverage" is read in light of the specification (p. 6, line 29; p. 7, lines 1-13).

4. In regard to claim 34 the prior art of record fails to teach or suggest the limitations of the respective claims when considered as a whole, specifically using the depth and surface geometry information for the one or more 3D objects to extend, on an output buffer pixel basis, the surfaces of the one or more 3D objects into an extended output buffer pixel; determining whether the extended surfaces of two or more of the 3D objects intersect over the extended output buffer pixel; and blending the colors of the one or more 3D objects with the color of the output buffer pixel as if two or more of the 3D objects intersected over the output buffer pixel whenever the extended surfaces of two or more of the 3D objects intersect over the extended output buffer pixel. It is noted that term "coverage" is read in light of the specification (p. 6, line 29; p. 7, lines 1-13).

5. In regard to claim 37 the prior art of record fails to teach or suggest the limitations of the respective claims when considered as a whole, specifically determining a blend color for each uniquely layered time period by blending in depth sorted order the color of each of the one or more 3D objects with the color of the output buffer pixel according to each of the one or more 3D objects' transfer modes. It is noted that term "coverage" is read in light of the specification (p. 6, line 29; p. 7, lines 1-13).

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6. In regard to claim 39 the prior art of record fails to teach or suggest the limitations of the respective claims when considered as a whole, specifically determining the number and volume of each uniquely layered space-time region, wherein the volume of a uniquely layered space-time region is calculated for the portion of the output buffer pixel and the portion of the shutter interval occupied by the space-time region. It is noted that term "coverage" is read in light of the specification (p. 6, line 29; p. 7, lines 1-13).

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter-Anthony Pappas whose telephone number is 571-272-7646. The examiner can normally be reached on M-F 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Peter-Anthony Pappas  
Examiner  
Art Unit 2628

PP

  
ULKA CHAUHAN  
SUPERVISORY PATENT EXAMINER